

REMARKS

Reconsideration is respectfully requested in view of the amendments and remarks herein.

Withdrawal of Finality of Action

Applicants hereby request that the finality of the Action mailed August 8, 2007, be withdrawn.

MPEP 706.07(d) entitled "Final Rejection, Withdrawal of, Premature" states:

"If, on request by applicant for reconsideration, the primary examiner finds the final rejection to have been premature, he or she should withdraw the finality of the rejection."

MPEP 706.07(a) entitled "Final Rejection, When Proper on Second Action" states:

Under present practice, second or any subsequent actions on the merits shall be final, except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims nor based on information submitted in an information disclosure statement filed during the period set forth in 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p). . . . Furthermore, a second or any subsequent action on the merits in any application . . . will not be made final if it includes a rejection, on newly cited art, other than information submitted in an information disclosure statement filed under 37 CFR 1.97(c) with the fee set forth in 37 CFR 1.17(p), of any claim not amended by applicant or patent owner in spite of the fact that other claims may have been amended to require newly cited art.

MPEP 706.07(a) also states:

A second or any subsequent action on the merits in any application . . . should not be made final if it includes a rejection, on prior art not of record, of any claim amended to include limitations which should reasonably have been expected to be claimed. See MPEP § 904 *et seq.* For example, one would reasonably expect that a rejection under 35 U.S.C. 112 for the reason of incompleteness would be replied to by an amendment supplying the omitted element.

Applicants respectfully request that the finality of the Action be withdrawn.

First, applicants note that Toyama et al. US 2003/0139520 A1 was called to the Examiner's attention in an Information Disclosure Statement filed on September 29, 2006 and was reviewed by the prior to issuing the January 11, 2007 Office Action. In this regard, please see the form PTO/SB/08A signed by the Examiner on January 7, 2007 and attached to the January 11, 2007 Office Action. US 6,903,152 B2 is a patent that issued from the application published as US 2003/0139520 A1 as can be seen from the front page of US

6,903,152 B2 under the heading “Prior Publication Data” and from the fact that they both list the same application number.

While applicants submitted a copy of US 6,903,152 B2 with the Third Information Disclosure Statement filed April 10, 2007, applicants submit that since counterpart US 2003/0139520 A1 was already before the Examiner this family was already before the Examiner prior to the issuance of the first Action and hence the WO 01/64598 A1 counterpart should have been considered before the Examiner prior to the first Action.

Next, applicants point out that claim 1 of the subject application recited that the plasticizer is tetraethylene glycol di heptanoate (4G7). Applicants point out that this plasticizer was recited in original claim 5 and is the only plasticizer used in the examples of the subject patent application. (See, page 7, line 18, and page 8, line 6.) Hence, applicants submit that this feature was in a pending claim. In addition, applicants submit that the independent claims were amended to include a feature which should reasonably have been expected to be inserted. Thus, the Action should not have been made final.

For the above reasons, applicants respectfully request that the finality of the Action mailed August 8, 2007, be withdrawn.

Entry of Amendments After Final Action

Even if finality is not withdrawn, the amendments in this document should be entered since they place the application in condition for allowance or better position for appeal.

First, applicants note that they have amended claim 31 in response to the rejection under 35 USC 112, so that amendment should be entered after final action since it reduces the issues for appeal. The amendment is discussed in greater detail below.

Second, applicants have the word “single” to the phrase “single homogeneous interlayer of polyvinyl butyral” in many of the claims. This amendment clarifies the claims since the specification defines the phrase “single homogeneous interlayer” at page 5, lines 20-31. Thus, addition of the word “single” to the claims clarifies that applicants intended to use the defined phrase in the claims.

Entry and consideration are respectfully requested.

35 USC 112

Claims 30-35 stand rejected under 35 USC 112, first paragraph, as failing to comply with the written description requirement.

Claims 30 recites that “the glass laminate provides Flexural Damping of greater than 0.20 η in the frequency range of from about 1000 Hz to about 5000 Hz.” Claims 32-35 depend from claim 30 and are based upon original claims 9, 10 and 14.

Applicants submit that claims 30 and 31 are supported by the data presented in Figure 2, which is referred to in the Examples. Flexural damping was measured using ISO PDPAS 16940, as described at page 2, lines 18-19. Applicants also submit that the specification provides additional support for adding this recitation at page 4, lines, 12-14.

Applicants herein amend claim 31 to recite that the Flexural Damping is about 0.20 η to about 0.30 η in the frequency range of from about 1000 Hz to about 5000 Hz based upon the data in Figure 2 and the other portions of the specification that are discussed above. Applicants submit that this range is well supported in and readily discernable from Figure 2.

For the above reasons, withdrawal of this rejection is respectfully requested.

If the Examiner believes that applicants should present claims 30 and 31 as a range, add “about” to claim 30, or insert further discussion of Figure 2 into the specification, please so indicate on the record.

35 USC 102(e)/103

Claims 1-3, 8-10, 15-17, 22-24 and 27-29 stand rejected under 35 USC 102(b) as anticipated over WO 01/64598 A1 Toyama et al. (Toyama).

Toyama is cited as disclosing an interlayer comprising polyvinyl butyral (PVB) and 30 to 70 weight parts plasticizer per 100 parts PVB. The Action states that Toyama discloses that PVB resin is composed of vinyl acetal component (i.e., vinyl butyral component) and a vinyl alcohol component. Example 15 of Toyama is cited as disclosing a composition of layer (A) containing 40 weight parts of tetraethylene glycol di heptanoate (4G7). Toyama is also cited as disclosing fabricated a glass comprising: “glass panel/Layer A/Layer B/Layer A/glass panel.” (Citing Example 15.) Toyama is further cited as disclosing use of the laminates in road vehicles and buildings.

The Action states that Toyama does not disclose the claimed hydroxyl numbers, but that Toyama’s disclosure of butyralization (acetalization) degree of from 60 to 85 mol% inherently discloses the claimed hydroxyl number unless applicants show otherwise.

In addition, Claims 1-3, 7-10, 14-17 and 21-35 stand rejected under 35 USC 103(a) as obvious over Toyama in view of US 6,559,212 B1 D’Errico et al. (D’Errico)

Toyama is cited as described above and the Action makes note that Toyama discloses a number of plasticizers, including tetraethylene glycol di heptanoate (4G7) and triethylene glycol di(2-ethylhexanoate) (3GO). The Action then points out that Toyama fails to disclose the claimed hydroxyl number and claimed Flexural Damping.

D’Errico is cited as disclosing a plasticized butyral sheet comprising PVB having a hydroxyl content of from 17 to 20.3% and 35 to 45 weight parts of triethylene glycol di(2-ethylhexanoate) (3GO) plasticizer. These PVB interlayers are stated to be useful for making glass laminates. The Action states that D’Errico teaches “the effect of hydroxyl numbers in the PVB resin on compatibility of plasticizer” and “determination of compatible amount of plasticizer.”

The Action concludes that from the above it would have been obvious to the person of ordinary skill in the art to utilize the disclosure of D’Errico in the invention of Toyama to use PVB resin having hydroxyl numbers of from 17 to 19.5 weight % and to optimize the amount

of plasticizer depending on desired glass transition temperatures of interlayer for desired sound insulation.

WO 01/64598 A1/US 6,903,152 B2

In the Office Action and this Response reference is made to counterpart US 6,903,152 B2, which is not believed to be prior art under 35 USC 102, but is considered to be a translation of WO 01/64598 A1. The citations to portions of WO 01/64598 A1 are made by reference to the corresponding portions of US 6,903,152 B2. Should US 6,903,152 B2 later prove to contain anything different from WO 01/64598 A1, applicants reserve the right to present arguments directed to the actual language of WO 01/64598.

Response

Applicants respectfully traverse these rejections for the reasons that: (a) Toyama does not teach or suggest the invention of any of the claims; and (b) the person of ordinary skill in the art would not be led by D'Errico to modify the products of Toyama to arrive at the claimed invention. Applicants submit that the person of ordinary skill in the art would be led away from the claimed inventions by Toyama and D'Errico.

Anticipation

All of the rejected claims recite an interlayer comprising polyvinyl butyral having a hydroxyl number in the range of from about 17 to about 23. The Action states that Toyama does not disclose the claimed hydroxyl numbers, but that Toyama's disclosure of butyralization (acetalization) degree of from 60 to 85 mol% inherently discloses the claimed hydroxyl number unless applicants show otherwise.

In order to compare the hydroxyl number of the claims with the disclosure of Toyama, applicants calculated the hydroxyl number of the PVB used in layer (B) of Example 15, which is referred to in the rejection.

Page 6, last sentence, of the subject applications states that the hydroxyl number is calculated using ASTM D 1396-92. ASTM D 1396-92 describes the hydroxyl number in terms of the weight % of vinyl alcohol units.

In order to calculate the hydroxyl number of the PVB of Example 15, first a polymer weight is obtained by multiplying the molar amount of each repeat unit by the weight of the unit. Then, the total weight is calculated by adding the weight of three units.

Looking at Example 15, it can be seen that layer (A) was prepared from a PVB having a butyralization degree of 68.9 mole % and an acetalization degree of 0.9 mole %. Thus, one can assume that vinyl alcohol repeat units are present in an amount of 30.2 mole %.

Repeat Unit	Amount (Mole %)	Weight/Mole (g/mole)	Weight (g)
Butyral	68.9	144 g/mol	9921.6
Vinyl Alcohol	30.2	44 g/mol	1328.8
Vinyl Acetate	0.9	86 g/mol	77.4
Total Weight			11327.8

The weight percentage of the vinyl alcohol units is in the PVB of layer (A) then calculated by dividing the weight of the vinyl alcohol by the total weight, and then multiplying by 100.

$$1328.8/11327.8 \times 100 = 11.7 \text{ weight \%}$$

Therefore, Example 15, layer (A), is directed to a PVB with a calculated hydroxyl number of 11.7, which is far outside the claimed range.

Layer (B) was prepared from a different PVB.

Repeat Unit	Amount (Mole %)	Weight/Mole (g/mole)	Weight (g)
Butyral	64.5	144 g/mol	9288
Vinyl Alcohol	21.2	44 g/mol	932.8
Vinyl Acetate	14.3	86 g/mol	1129.8
Total Weight			11,349.8

The weight percentage of the vinyl alcohol units in the PVB of layer (B) is then calculated by dividing the weight of the vinyl alcohol by the total weight, and then multiplying by 100.

$$932.8 / 11,349.8 \times 100 = 8.2 \text{ weight \%}$$

Therefore, Example 15, layer (B), is directed to a PVB with a calculated hydroxyl number of 8.2, which is far outside the claimed range.

Looking at the more general teachings of Toyama, it can be seen that Toyama frequently refers to PVB that would have an acetalization degree of 60 to 85 mol % and an acetyl group content of 8 to 30 mol %, and that the combined total of the acetalization degree and acetyl group content should be not less than 75 mol %. (Note that Example 15, layer (A) is stated to be directed to a PVB having only 0.9% vinyl acetate groups.) The highest hydroxyl number for such a polymer can be calculated by using the minimum amount of butyral repeat units and the minimum number of vinyl alcohol units that would achieve 75 mole % of the two units as follows:

Repeat Unit	Amount (Mole %)	Weight/Mole (g/mole)	Weight (g)
Butyral	60	144 g/mol	8640
Vinyl Alcohol	15	44 g/mol	1290
Vinyl Acetate	25	86 g/mol	1100
Total Weight			11,030

The weight percentage of the vinyl alcohol units in the PVB is then calculated by dividing the weight of the vinyl alcohol by the total weight, and then multiplying by 100.

$$1290 / 11,030 \times 100 = 11.7 \text{ weight \%}$$

Therefore, Toyama's general teachings concerning PVB is that the hydroxyl number should be no more than 11.7, which is far outside the claimed range.

Given the above, applicants submit that Toyama does not teach PVB as claimed.

In addition, Toyama does not teach or suggest a glass laminate having sound-damping properties comprising a "single homogeneous interlayer" of the PVB of the type described in the claims. Thus, Toyama does not teach the invention of claims 8-10, 14-17, 21-26 and 28-35.

Claim 8 is an example of one of these claims. It recites:

"8. A glass laminate having sound-damping properties comprising a single homogeneous interlayer of polyvinyl butyral positioned between two sheets of glass, wherein the polyvinyl butyral has a hydroxyl number in the range of from about 17 to about 23 and comprises a single plasticizer in an amount of from about 40 to about 50 pph parts, wherein the plasticizer is tetraethylene glycol di heptanoate."

The specification "single homogeneous interlayer" at page 5, lines 20-31. It states:

"By 'single homogeneous interlayer' it is meant that the interlayer has the same composition from the inner surface of one sheet of glass to the inner surface of the second sheet of glass, whether the interlayer is one sheet of PVB or multiple layers of PVB (that is, at least one layer of PVB). By "the same composition" it is meant that the composition of each of the at least one PVB interlayers between the glass sheets is of a composition defined by the present invention. In other words, it is contemplated that a 'single homogeneous interlayer' of the present invention can be one sheet of PVB interlayer of the present invention or multiple layers of PVB, provided that each interlayer sheet is PVB that has the composition as it is defined within the scope of the present invention."

In contrast, Toyama does not teach such a glass laminate.

Toyama's Abstract describes an interlayer for a laminated glass for sound insulation. The Abstract describes the interlayer as comprising a plasticizer and a polyacetal resin, which

is a blend of a polyacetal resin having an average polymerization degree of 1,000 to 3,000 and a polyacetal resin having an average polymerization degree of 3,000 to 5,000, and which has an acetalization degree of 60 to 85 mol % and an acetyl group content of 8 to 30 mol %.

According to the Summary of the Invention at column 3, lines 42-62, in a first aspect Toyama is concerned with an interlayer film for a laminated glass comprising a poly(vinyl acetal) resin (C), which is a blend of a poly(vinyl acetal) resin (A) and a poly(vinyl acetal) resin (B), and a plasticizer. Poly(vinyl acetal) resin (A) has an average polymerization degree 1,000 to 3,000. Poly(vinyl acetal) resin (B) having an average polymerization degree 3,000 to 5,000. The difference in the average polymerization degree between said poly(vinyl acetal) resin (A) and poly(vinyl acetal) resin (B) must be not less than 1,500. Poly(vinyl acetal) resin (C) has an acetalization degree of 60 to 85 mol % and an acetyl group content of 8 to 30 mol %, the combined total of said acetalization degree and acetyl group content being not less than 75 mol %. The cloud point of a solution prepared by dissolving 8 weight parts of the poly(vinyl acetal) resin (C) in 100 weight parts of the plasticizer is not higher than 50°C.

In a second aspect of Toyama, described in the Summary of the Invention beginning at column 3, line 62, an interlayer film for a laminated glass comprises a laminate of films. Each film comprises a poly(vinyl acetal) resin plasticized with at least one kind of plasticizer selected from the group consisting of triethylene glycol di-2-ethylhexanoate, tetraethylene glycol di-2-ethylhexanoate, triethylene glycol di-n-heptanoate, and tetraethylene glycol di-n-heptanoate, and shows a temperature dependence of loss tangent in which the lowest-temperature side maximum of loss tangent appears at 30° C or lower when examined for dynamic viscoelasticity. In the second aspect, at least one constituent layer is preferably such that the cloud point of a solution prepared by dissolving 8 weight parts of the poly(vinyl acetal) resin in 100 weight parts of the plasticizer is not higher than 50° C. In the second aspect, it is preferable that the amount of the plasticizer relative to 100 weight parts of the poly(vinyl acetal) resin is larger in at least one constituent layer than that in the other layer or layers by not less than 5 weight parts. In the second aspect, at least one constituent layer is preferably such that the poly(vinyl acetal) resin has an average polymerization degree of not less than 1,500, an acetalization degree of 60 to 85 mol % and an acetyl group content of 8 to 30 mol %, with the combined total of said acetalization degree and acetyl group content being not less than 75 mol %.

The second aspect is preferably such that at least one constituent layer comprises a poly(vinyl acetal) resin (C) derived from a poly(vinyl alcohol) resin which is a blend of a poly(vinyl alcohol) resin (A) and a poly(vinyl alcohol) resin (B), and a plasticizer. The difference in the average polymerization degree between said poly(vinyl alcohol) resin (A) and said poly(vinyl alcohol) resin (B) being not less than 500. Poly(vinyl acetal) resin (C) having an acetalization degree of 60 to 85 mol % and an acetyl group content of 8 to 30 mol %, with the combined total of said acetalization degree and acetyl group content being not less

than 75 mol %. More preferably, the average polymerization degree of poly(vinyl alcohol) resin (A) is 500 to 3,000, the average degree of poly(vinyl alcohol) resin (B) is 3,000 to 5,000.

Alternatively at least one constituent layer comprises a poly(vinyl acetal) resin (F), which is a blend of a poly(vinyl acetal) resin (D) and a poly(vinyl acetal) resin (E), and a plasticizer. The difference in the average polymerization degree between poly(vinyl acetal) resin (D) and poly(vinyl acetal) resin (E) is not less than 500. Poly(vinyl acetal) resin (F) has an acetalization degree of 60 to 85 mol % and an acetyl group content of 8 to 30 mol %, with the combined total of acetalization degree and acetyl group content being not less than 75 mol %. More preferably, the average polymerization degree of the average polymerization degree of poly(vinyl acetal) resin (D) is 500 to 3,000 and the average polymerization degree of poly(vinyl acetal) resin (E) is 3,000 to 5,000.

In the first and the second aspects, the poly(vinyl acetal) resin is preferably a poly(vinyl butyral) resin.

Column 6, lines 28-36, states that the technology for blending poly(vinyl acetal) resin (A) with said poly(vinyl acetal) resin (B) includes, for example, (a) the method which comprises blending poly(vinyl alcohol) (PVA) species differing in the average polymerization degree in a predetermined ratio and carrying out an acetalization reaction to give a mixed poly(vinyl acetal) resin, and (b) the method which comprises blending poly(vinyl acetal) resin species obtained from PVA species differing in the average polymerization degree.

Column 7, lines 6-54, describes use of plasticizer, stating:

“The plasticizer mentioned above is not particularly restricted but includes organic ester plasticizers such as monobasic acid esters and polybasic acid esters; and phosphoric acid plasticizers such as organic phosphates and organic phosphites, among others.

“The monobasic acid ester plasticizer referred to above is not particularly restricted but includes glycol esters which are obtained by reacting a glycol, such as triethylene glycol, tripropylene glycol, and tetraethylene glycol, with an organic acid, such as butyric acid, isobutyric acid, caproic acid, 2-ethylbutyric acid, heptanoic acid, and 2-ethylhexanoic acid.

“The polybasic acid ester plasticizer referred to above is not particularly restricted but includes esters obtained by, for example, reacting a linear-chain or branched-chain alcohol of 4 to 8 carbon atoms with an organic acid, such as adipic acid, sebacic acid, and azelaic acid.

“The phosphoric acid plasticizer referred to above is not particularly restricted but includes tributoxyethyl phosphate, isodecylphenyl phosphate, and so forth.

“The preferred, among the above various kinds of plasticizers, are triethylene glycol di-2-ethylbutyrate (3GH), triethylene glycol di-2-

ethylhexanoate (3GO), triethylene glycol di-n-heptanoate (3G7), triethylene glycol dicaprylate, triethylene glycol di-n-octanoate, tetraethylene glycol di-2-ethylbutyrate, tetraethylene glycol di-n-heptanoate, dihexyl adipate, dibenzyl phthalate, and so forth. The more preferred are 3GH, 3GO, and 3G7. These plasticizers may be used independently or in a combination of two or more species.

“Referring to the interlayer film for a laminated glass according to the first aspect of the invention, and to the combination of a poly(vinyl acetal) resin (C) with the plasticizer, it is preferable to use a poly(vinyl butyral) resin as the poly(vinyl acetal) resin (C) and at least one member selected from the group consisting of 3GH, 3GO and 3G7 as the plasticizer.

“The level of addition of the plasticizer relative to said poly(vinyl acetal) resin (C) is not particularly restricted but based on 100 weight parts of the poly(vinyl acetal) resin (C), the plasticizer is used preferably in a proportion of 30 to 70 weight parts. If the proportion is less than 30 weight parts, the poly(vinyl acetal) resin may not be sufficiently plasticized. If it exceeds 70 weight parts, the product interlayer film for a laminated glass will be decreased in mechanical strength with the consequent poor impact resistance and the adhesion of the interlayer to glass also tends to become insufficient.”

The plasticizer is also discussed in the portion focused on the second aspect of the invention. At column 9, lines 17-39, Toyama states:

“The plasticizer for use in the second aspect of the invention is restricted, as mentioned above, to triethylene glycol di-2-ethylhexanoate (3GO), tetraethylene glycol di-2-ethylhexanoate (4GO), triethylene glycol di-n-heptanoate (3G7), and tetraethylene glycol di-n-heptanoate (4G7). In reconciling plasticization and sound insulation properties, it may happen, with any plasticizer other than the above species, that troubles relating to heat resistance and moisture resistance which are not observed in ordinary applications are encountered depending on test conditions. The above-mentioned plasticizer species may be used each independently or in a combination of two or more species.

“The level of addition of said plasticizer is not particularly restricted but, based on 100 weight parts of the poly(vinyl acetal) resin, the plasticizer is used preferably in a proportion of 30 to 70 weight parts. If it is less than 30 weight parts, the plasticization of the poly(vinyl acetal) resin tends to be insufficient and the sound insulation performance will also become insufficient in many instances. On the other hand, if it exceeds 70 weight parts, the dynamic properties of the resin layer and of the interlayer film and the adhesion to glass tend to be insufficient.”

Example 1 describes preparing a poly(vinyl butyral) resin from a PVA blend. The poly(vinyl butyral) resin has a butyralization degree of 63.6 mol % and an acetyl group content of 14.3 mol %. To 100 weight parts of this poly(vinyl butyral) resin was added 60 weight parts of the plasticizer triethylene glycol di-2-ethylhexanoate (3GO). An interlayer

film was formed and used in making a laminated glass. Examples 2-3 are similar and 6 comparative examples were prepared in similar fashion using 3GO.

The remaining examples are focused on multi-layer laminates as described in the second aspect of the invention. Example 15, which is referred to in the rejection, is directed to fabricating a glass laminate having a glass panel/Layer A/Layer B/Layer A/glass panel structure. Toyama states that Layer (A) was prepared by adding 40 weight parts of tetraethylene glycol di-n-heptanoate (4G7) as the plasticizer to 100 weight parts of a PVB resin (butyralization degree = 68.9 mol %, acetylation degree = 0.9 mol %). Toyama then states: "For use as the layer (B), the following resin film was prepared." Then, it states "Thus, 100 weight parts of a PVB resin (butyralization degree=64.5 mol %, acetylation degree=14.3 mol %) synthesized from a PVA having an average polymerization degree of 1,700 was blended with 42 weight parts of a PVB resin (butyralization degree=64.5 mol %, acetylation degree=14.3 mol %) synthesized from a PVA having an average polymerization degree of 4,000. To 100 weight parts of this PVB resin blend was added 60 weight parts of 4G7 as the plasticizer, and a resin film was prepared." It then states that otherwise the procedure of Example 10 was repeated to fabricate a laminated glass.

Example 10 describes layers (A) and (B) superposed in the layer (A)/layer (B)/layer (A) arrangement to give a three-layer interlayer film. This interlayer was sandwiched between a pair of float glass panels each measuring 300 mm square and 3 mm thick and this unpressed sandwich composition was placed in a rubber bag. The bag was evacuated at a vacuum level of 2.7 kPa for 20 minutes and transferred in evacuated state to an oven at 90°C. and held at that temperature for 30 minutes. The sandwich composition provisionally integrated by the above vacuum pressing was heat-bonded in an autoclave under a pressure of 12 kg/cm² at a temperature of 135° C to give a transparent laminated glass.

From the above, it can be seen that Toyama indicates a preference for 3GH, 3GO, and 3G7 plasticizers, and indicates a preference for multiple layer interlayers with different interlayers. In addition, Example 15, layer (A), which appears to have been prepared with 40 weight % 4G7 had a much lower hydroxyl number than claimed. Thus, it can be seen that Toyama doesn't teach or suggest the claimed invention.

Obviousness

Concerning obviousness, applicants submit that Toyama does not teach or suggest the claimed invention for the reasons described above and there is nothing in D'Errico that would lead the person of ordinary skill in the art to the claimed invention.

D'Errico's Abstract describes polyvinyl butyral resin and sheet having a hydroxyl content less than 19.5, preferably about 17 to 19 weight %, calculated as polyvinyl alcohol, plasticized with a compatible amount of triethylene glycol di-2-ethylhexanoate (referred to as "3GO" in the subject application and herein, and as "3GEH" in D'Errico). According to column 1, lines 53-56, the resin-compatible effective amount depends on properties desired in

the laminate application and generally 35 to 45 parts 3GO plasticizer per 100 parts PVB resin (PPHR) are used.

D'Errico's Examples 1-3 and 6-7 seem to be invention examples, and Examples 5, 8 and 9 seem to be comparative examples outside the scope of the D'Errico claims (at least those in the patent). Example 4 also seems to be an invention example from the claims and the discussion at column 3; however, it is lumped together with comparative Example 5 in the discussion of the results. In any event, Examples 1-4 and 6-7 were prepared using 37.6 to 41.7 3GO plasticizer. (Comparative Example 8 was directed to 44 PPHR of 3GO and 20.0% PVOH.)

Looking at combining the two patents, applicants can not see how the person of ordinary skill in the art would be led to combine the teachings to arrive at the claimed invention. First it is hard to understand what embodiment or teachings in Toyama would be the starting point. Toyama indicates a preference for 3GH, 3GO, and 3G7 plasticizers, and indicates a preference for multiple layer interlayers with different interlayers. In addition, Example 15, layer (A), which appears to have been prepared with 40 weight % 4G7 had a much lower hydroxyl number than claimed and is used in a structure that contains different PVB layers. D'Errico teaches use of 3GO as a plasticizer. Given the teachings of both patents it seems the person of ordinary skill in the art would be led to use 3GO. Further, it seems that the person of ordinary skill in the art would be led towards structures with two different PVB layers, as opposed to the claimed "single homogeneous interlayer" of the PVB.

Consequently, withdrawal of the obviousness rejection is respectfully requested.

In view of the foregoing, allowance of the above-referenced application is respectfully requested.

Should any matter remain unresolved by this response, the Examiner is invited to telephone the undersigned at the below-listed direct dial telephone number in order to expedite prosecution.

Respectfully submitted,

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Attachment

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